

## PATENT COOPERATION TREATY

10/009127

PCT

From the INTERNATIONAL BUREAU

NOTIFICATION OF THE RECORDING  
OF A CHANGE(PCT Rule 92bis.1 and  
Administrative Instructions, Section 422)

To:

PELLMANN, Hans-Bernd  
Tiedtke-Bühling-Kinne et al.  
Bavariaring 4  
D-80336 München  
ALLEMAGNEDate of mailing (day/month/year)  
11 January 2002 (11.01.02)Applicant's or agent's file reference  
WO24459

## IMPORTANT NOTIFICATION

International application No.  
PCT/EP99/04053International filing date (day/month/year)  
11 June 1999 (11.06.99)

## 1. The following indications appeared on record concerning:

☒ the applicant ☐ the inventor ☐ the agent ☐ the common representative

## Name and Address

NOKIA NETWORKS OY  
Keilalahdentie 4  
FIN-02150 Espoo  
FinlandState of Nationality  
FIState of Residence  
FITelephone No.  
+358 9 1807 0Facsimile No.  
+358 9 1807 496

Teleprinter No.

## 2. The International Bureau hereby notifies the applicant that the following change has been recorded concerning:

☐ the person ☒ the name ☐ the address ☐ the nationality ☐ the residence

## Name and Address

NOKIA CORPORATION  
Keilalahdentie 4  
FIN-02150 Espoo  
FinlandState of Nationality  
FIState of Residence  
FITelephone No.  
+358 9 1807 0Facsimile No.  
+358 9 1807 496

Teleprinter No.

## 3. Further observations, if necessary:

Change of applicant's name (merger) has been recorded.

## 4. A copy of this notification has been sent to:

☒ the receiving Office ☐ the designated Offices concerned  
☐ the International Searching Authority ☒ the elected Offices concerned  
☒ the International Preliminary Examining Authority ☐ other:The International Bureau of WIPO  
34, chemin des Colombettes  
1211 Geneva 20, Switzerland

Authorized officer

Maria Victoria CORTIELLO

Facsimile No.: (41-22) 740.14.35

Telephone No.: (41-22) 338.83.38

## PATENT COOPERATION TREATY

10/009127

PCT

## NOTIFICATION OF ELECTION

(PCT Rule 61.2)

From the INTERNATIONAL BUREAU

To:

Commissioner  
US Department of Commerce  
United States Patent and Trademark  
Office, PCT  
2011 South Clark Place Room  
CP2/5C24  
Arlington, VA 22202  
ETATS-UNIS D'AMERIQUE  
in its capacity as elected Office

Date of mailing (day/month/year) 16 February 2001 (16.02.01)	
International application No. PCT/EP99/04053	Applicant's or agent's file reference WO24459
International filing date (day/month/year) 11 June 1999 (11.06.99)	Priority date (day/month/year)
Applicant PAJUKOSKI, Kari et al	

1. The designated Office is hereby notified of its election made:

☒ in the demand filed with the International Preliminary Examining Authority on:  
04 January 2001 (04.01.01)

☐ in a notice effecting later election filed with the International Bureau on:

2. The election ☒ was

☐ was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No.: (41-22) 740.14.35	Authorized officer Pascal Piriou Telephone No.: (41-22) 338.83.38
---	---

## PATENT COOPERATION TREATY

10/009127

PCT

From the INTERNATIONAL BUREAU

NOTIFICATION OF THE RECORDING  
OF A CHANGE(PCT Rule 92bis.1 and  
Administrative Instructions, Section 422)

To:

PELLMANN, Hans-Bernd  
Tiedtke-Bühling-Kinne et al.  
Bavariaring 4  
D-80336 München  
ALLEMAGNE

Date of mailing (day/month/year)

21 January 2002 (21.01.02)

Applicant's or agent's file reference

WO24459

## IMPORTANT NOTIFICATION

International application No.

PCT/EP99/04053

International filing date (day/month/year)

11 June 1999 (11.06.99)

## 1. The following indications appeared on record concerning:

☒ the applicant ☒ the inventor ☐ the agent ☐ the common representative

Name and Address

HORNEMAN, Karl  
Kaijantie 36  
FIN-90800 Oulu  
Finland

State of Nationality

FI

State of Residence

FI

Telephone No.

Facsimile No.

Teleprinter No.

## 2. The International Bureau hereby notifies the applicant that the following change has been recorded concerning:

☐ the person ☒ the name ☐ the address ☐ the nationality ☐ the residence

Name and Address

HORNEMAN, Kari  
Kaijantie 36  
FIN-90800 Oulu  
Finland

State of Nationality

FI

State of Residence

FI

Telephone No.

Facsimile No.

Teleprinter No.

## 3. Further observations, if necessary:

## 4. A copy of this notification has been sent to:

☒ the receiving Office ☐ the designated Offices concerned  
☐ the International Searching Authority ☒ the elected Offices concerned  
☐ the International Preliminary Examining Authority ☐ other:The International Bureau of WIPO  
34, chemin des Colombettes  
1211 Geneva 20, Switzerland

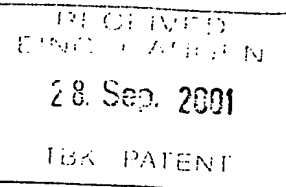
Facsimile No.: (41-22) 740.14.35

Authorized officer

Anne KARKACHI

Telephone No.: (41-22) 338.83.38

# PATENT COOPERATION TREATY



From the  
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

To:

LESON, Thomas, Johannes, Alois  
TIEDTKE, BÜHLING, KINNE & PARTNER  
GBR  
Bavariaring 4  
D-80336 München  
ALLEMAGNE



NOTIFICATION OF TRANSMITTAL OF  
THE INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT  
(PCT Rule 71.1)

Date of mailing  
(day/month/year) 27.09.2001

Applicant's or agent's file reference  
WO24459

## IMPORTANT NOTIFICATION

International application No.  
PCT/EP99/04053

International filing date (day/month/year)  
11/06/1999

Priority date (day/month/year)  
11/06/1999

Applicant  
NOKIA NETWORKS OY

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary examination report and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.

### 4. REMINDER

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices) (Article 39(1)) (see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

Name and mailing address of the IPEA/



European Patent Office  
D-80298 Munich  
Tel. +49 89 2399 - 0 Tx: 523656 epmu d  
Fax: +49 89 2399 - 4465

Authorized officer

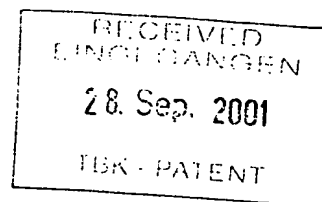
Poquet Oliver, R

Tel. +49 89 2399-2911




# PATENT COOPERATION TREATY

## PCT



### INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference <b>WO24459</b>		<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. <b>PCT/EP99/04053</b>	International filing date (day/month/year) <b>11/06/1999</b>	Priority date (day/month/year) <b>11/06/1999</b>	
International Patent Classification (IPC) or national classification and IPC <b>H04B7/005</b>			
Applicant <b>NOKIA NETWORKS OY</b>			
<p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 5 sheets, including this cover sheet.</p> <p><input type="checkbox"/> This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of sheets.</p>			
<p>3. This report contains indications relating to the following items:</p> <ul style="list-style-type: none"> <li>I <input checked="" type="checkbox"/> Basis of the report</li> <li>II <input type="checkbox"/> Priority</li> <li>III <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</li> <li>IV <input type="checkbox"/> Lack of unity of invention</li> <li>V <input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</li> <li>VI <input type="checkbox"/> Certain documents cited</li> <li>VII <input checked="" type="checkbox"/> Certain defects in the international application</li> <li>VIII <input checked="" type="checkbox"/> Certain observations on the international application</li> </ul>			
Date of submission of the demand <b>04/01/2001</b>		Date of completion of this report <b>27.09.2001</b>	
Name and mailing address of the international preliminary examining authority:  <b>European Patent Office</b> <b>D-80298 Munich</b> <b>Tel. +49 89 2399 - 0 Tx: 523656 epmu d</b> <b>Fax: +49 89 2399 - 4465</b>		Authorized officer  <b>Ciccarese, C</b>  Telephone No. +49 89 2399 7302	



# INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/EP99/04053

## I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):
- Description, pages:**

1-17 as originally filed

**Claims, No.:**

1-20 as originally filed

**Drawings, sheets:**

1/3-3/3 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:

# INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/EP99/04053

☐ the drawings, sheets:

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

*(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)*

6. Additional observations, if necessary:

## V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

### 1. Statement

Novelty (N)	Yes:	Claims	1-20
	No:	Claims	
Inventive step (IS)	Yes:	Claims	1-20
	No:	Claims	
Industrial applicability (IA)	Yes:	Claims	1-20
	No:	Claims	

2. Citations and explanations  
**see separate sheet**

## VII. Certain defects in the international application

The following defects in the form or contents of the international application have been noted:  
**see separate sheet**

## VIII. Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:  
**see separate sheet**

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT - SEPARATE SHEET**

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International application No. PCT/EP99/04053

**Re Item V**

**Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. The application belongs to the field of digital telecommunications. The goal is to perform an interference estimation.
2. Claims 1, 10 and 19 are regarded as novel and inventive (Articles 33 (2)-(3) PCT) for the following reasoning:

none of the documents from the search report teaches how to perform an interference estimation based on an estimation of the variance of samples of the average of a received signal spread spectrum signal over a predetermined code period over which the spreading codes are orthogonal, nor would this be obvious for a skilled person.

3. The dependent claims concern advantageous embodiments of the subject matter of the independent claims and thus their subject matter is also considered to be novel and inventive.

**Re Item VII**

**Certain defects in the international application**

1. The features of the claims are not provided with reference signs placed in parentheses (Rule 6.2(b) PCT).



**Re Item VIII**

**Certain observations on the international application**

1. It is clear from the description (cf. pages 11-15 and figure 3) that essential features are missing in the definition of the invention.

In fact, in claim 10 it is written that the sampling means generate a despread sample signal, although the despread signal has no antecedent. In fact the integrator I1 (see page 14, line 26) is essential in order to implement the invention.

The reference sign I1 used in claim 10 for the sampling means is wrong, since I1 is an integrator.

Furthermore, it is not specified which signal the verb "averaging" in claim 10, line 7 is applied to, nor the variance of which signal is calculated in part c) of the claim (for the purposes of part V the description and Fig. 3 were used to understand the claims: it was supposed that the received and despread signal was averaged).

Moreover yet, the other operators of figure 3 are indispensable in order to implement a working interference estimator as suggested in the description. They should therefore be included in the definition of the invention.

Since independent claim 10 as well as claims 1 and 19 do not contain these features, they do not meet of the requirement following from Article 6 PCT taken in combination with Rule 6. 3 (b) PCT that any independent claim must contain all the technical features essential to the definition of the invention.

**EINGEGANGEN**  
Patentamt

10. DEZ. 1999

TIEDTKE - BÜHLING - KINNE  
& PARTNER

PATENT COOPERATION TREATY

PCT

From the INTERNATIONAL BUREAU

To:

PELLMANN, Hans-Bernd  
Tiedtke-Bühling-Kinne et al.  
Bavariaring 4  
D-80336 München  
ALLEMAGNENOTIFICATION OF THE RECORDING  
OF A CHANGE(PCT Rule 92bis.1 and  
Administrative Instructions, Section 422)

Date of mailing (day/month/year)

06 December 1999 (06.12.99)

Applicant's or agent's file reference

WO24459

International application No.

PCT/EP99/04053

## IMPORTANT NOTIFICATION

International filing date (day/month/year)

11 June 1999 (11.06.99)

1. The following indications appeared on record concerning:

☒ the applicant ☐ the inventor ☐ the agent ☐ the common representative

Name and Address

NOKIA TELECOMMUNICATIONS OY  
Keilalahdentie 4  
FIN-02150 Espoo  
Finland

State of Nationality

FI

State of Residence

FI

Telephone No.

+358 9 1807 0

Facsimile No.

+358 9 1807 496

Teleprinter No.

2. The International Bureau hereby notifies the applicant that the following change has been recorded concerning:

☐ the person ☒ the name ☐ the address ☐ the nationality ☐ the residence

Name and Address

NOKIA NETWORKS OY  
Keilalahden, e 4  
FIN-02150 Espoo  
Finland

State of Nationality

FI

State of Residence

FI

Telephone No.

+358 9 1807 0

Facsimile No.

+358 9 1807 496

Teleprinter No.

3. Further observations, if necessary:

4. A copy of this notification has been sent to:

☒ the receiving Office ☐ the designated Offices concerned  
☒ the International Searching Authority ☐ the elected Offices concerned  
☐ the International Preliminary Examining Authority ☐ other:The International Bureau of WIPO  
34, chemin des Colombettes  
1211 Geneva 20, Switzerland

Facsimile No.: (41-22) 740.14.35

Authorized officer

Céline Faust

Telephone No.: (41-22) 338.83.38

**PCT**

**NOTICE INFORMING THE APPLICANT OF THE  
COMMUNICATION OF THE INTERNATIONAL  
APPLICATION TO THE DESIGNATED OFFICES**

(PCT Rule 47.1(c), first sentence)

From the INTERNATIONAL BUREAU

To:

PELLMANN, Hans-Bernd  
Tiedtke-Bühling-Kinne et al.  
Bavariaring 4  
D-80336 München  
ALLEMAGNE

**EINGEGANGEN**  
Patentanwälte  
- 2. Jan. 2001  
TIEDTKE · BÜHLING · KINNE  
& PARTNER (GbR)

Date of mailing (day/month/year) 21 December 2000 (21.12.00)		
Applicant's or agent's file reference WO24459		<b>IMPORTANT NOTICE</b>
International application No. PCT/EP99/04053	International filing date (day/month/year) 11 June 1999 (11.06.99)	Priority date (day/month/year)
Applicant NOKIA NETWORKS OY et al		

1. Notice is hereby given that the International Bureau has communicated, as provided in Article 20, the international application to the following designated Offices on the date indicated above as the date of mailing of this Notice:  
**AU, KP, KR, US**

In accordance with Rule 47.1(c), third sentence, those Offices will accept the present Notice as conclusive evidence that the communication of the international application has duly taken place on the date of mailing indicated above and no copy of the international application is required to be furnished by the applicant to the designated Office(s).

2. The following designated Offices have waived the requirement for such a communication at this time:  
**AE, AL, AM, AP, AT, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EA, EE, EP, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, OA, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZA, ZW**  
The communication will be made to those Offices only upon their request. Furthermore, those Offices do not require the applicant to furnish a copy of the international application (Rule 49.1(a-bis)).
3. Enclosed with this Notice is a copy of the international application as published by the International Bureau on 21 December 2000 (21.12.00) under No. WO 00/77946

**REMINDER REGARDING CHAPTER II (Article 31(2)(a) and Rule 54.2) --**

If the applicant wishes to postpone entry into the national phase until 30 months (or later in some Offices) from the priority date, a demand for international preliminary examination must be filed with the competent International Preliminary Examining Authority before the expiration of 19 months from the priority date.

It is the applicant's sole responsibility to monitor the 19-month time limit.

Note that only an applicant who is a national or resident of a PCT Contracting State which is bound by Chapter II has the right to file a demand for international preliminary examination.

**REMINDER REGARDING ENTRY INTO THE NATIONAL PHASE (Article 22 or 39(1))**

If the applicant wishes to proceed with the international application in the national phase, he must, within 20 months or 30 months, or later in some Offices, perform the acts referred to therein before each designated or elected Office.

For further important information on the time limits and acts to be performed for entering the national phase, see the Annex to Form PCT/IB/301 (Notification of Receipt of Record Copy) and Volume II of the PCT Applicant's Guide.

<p style="text-align: center;">The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland</p> <p>Facsimile No. (41-22) 740.14.35</p>	<p>Authorized officer  J. Zahra</p> <p>Telephone No. (41-22) 338.83.38</p>
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## PCT COOPERATION TREATY

PCT

From the INTERNATIONAL BUREAU

NOTIFICATION OF RECEIPT OF  
RECORD COPY(PCT Rule 24.2) **ANGEN**

Patentanwälte

27. AUG. 1999

TIEDTKE - BÜHLING - KINNE  
& PARTNER

To:

PELLMANN, Hans-Bernd  
Tiedtke-Bühling-Kinne et al.  
Bavariaring 4  
D-80336 München  
ALLEMAGNE

Date of mailing (day/month/year) 12 August 1999 (12.08.99)	IMPORTANT NOTIFICATION
Applicant's or agent's file reference WO24459	International application No. PCT/EP99/04053

The applicant is hereby notified that the International Bureau has received the record copy of the international application as detailed below.

Name(s) of the applicant(s) and State(s) for which they are applicants:

NOKIA TELECOMMUNICATIONS OY (for all designated States except US)  
PAJUKOSKI, Kari et al (for US)

International filing date : 11 June 1999 (11.06.99)  
Priority date(s) claimed :  
Date of receipt of the record copy  
by the International Bureau : 26 July 1999 (26.07.99)  
List of designated Offices :

AP : GH,GM,KE,LS,MW,SD,SL,SZ,UG,ZW  
EA : AM,AZ,BY,KG,KZ,MD,RU,TJ,TM  
EP : AT,BE,CH,CY,DE,DK,ES,FI,FR,GB,GR,IE,IT,LU,MC,NL,PT,SE  
OA : BF,BJ,CF,CG,CI,CM,GA,GN,GW,ML,MR,NE,SN,TD,TG  
National : AE,AL,AM,AT,AU,AZ,BA,BB,BG,BR,BY,CA,CH,CN,CU,CZ,DE,DK,EE,ES,FI,GB,GD,GE,  
GH,GM,HR,HU,ID,IL,IN,IS,JP,KE,KG,KP,KR,KZ,LC,LK,LR,LS,LT,LU,LV,MD,MG,MK,MN,MW,MX,  
NO,NZ,PL,PT,RO,RU,SD,SE,SG,SI,SK,SL,TJ,TM,TR,TT,UA,UG,US,UZ,VN,YU,ZA,ZW

## ATTENTION

The applicant should carefully check the data appearing in this Notification. In case of any discrepancy between these data and the indications in the international application, the applicant should immediately inform the International Bureau.

In addition, the applicant's attention is drawn to the information contained in the Annex, relating to:

- ☒ time limits for entry into the national phase  
☐ confirmation of precautionary designations  
☐ requirements regarding priority documents

A copy of this Notification is being sent to the receiving Office and to the International Searching Authority.

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No. (41-22) 740.14.35	Authorized officer: Céline Faust <i>C Faust</i> Telephone No. (41-22) 338.83.38
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**INFORMATION ON TIME LIMITS FOR ENTERING THE NATIONAL PHASE**

The applicant is reminded that the "national phase" must be entered before each of the designated Offices indicated in the Notification of Receipt of Record Copy (Form PCT/IB/301) by paying national fees and furnishing translations, as prescribed by the applicable national laws.

The time limit for performing these procedural acts is **20 MONTHS** from the priority date or, for those designated States which the applicant elects in a demand for international preliminary examination or in a later election, **30 MONTHS** from the priority date, provided that the election is made before the expiration of 19 months from the priority date. Some designated (or elected) Offices have fixed time limits which expire even later than 20 or 30 months from the priority date. In other Offices an extension of time or grace period, in some cases upon payment of an additional fee, is available.

In addition to these procedural acts, the applicant may also have to comply with other special requirements applicable in certain Offices. It is the applicant's responsibility to ensure that the necessary steps to enter the national phase are taken in a timely fashion. Most designated Offices do not issue reminders to applicants in connection with the entry into the national phase.

For detailed information about the procedural acts to be performed to enter the national phase before each designated Office, the applicable time limits and possible extensions of time or grace periods, and any other requirements, see the relevant Chapters of Volume II of the PCT Applicant's Guide. Information about the requirements for filing a demand for international preliminary examination is set out in Chapter IX of Volume I of the PCT Applicant's Guide.

GR and ES became bound by PCT Chapter II on 7 September 1996 and 6 September 1997, respectively, and may, therefore, be elected in a demand or a later election filed on or after 7 September 1996 and 6 September 1997, respectively, regardless of the filing date of the international application. (See second paragraph above.)

Note that only an applicant who is a national or resident of a PCT Contracting State which is bound by Chapter II has the right to file a demand for international preliminary examination.

**CONFIRMATION OF PRECAUTIONARY DESIGNATIONS**

This notification lists only specific designations made under Rule 4.9(a) in the request. It is important to check that these designations are correct. Errors in designations can be corrected where precautionary designations have been made under Rule 4.9(b). The applicant is hereby reminded that any precautionary designations may be confirmed according to Rule 4.9(c) before the expiration of 15 months from the priority date. If it is not confirmed, it will automatically be regarded as withdrawn by the applicant. There will be no reminder and no invitation. Confirmation of a designation consists of the filing of a notice specifying the designated State concerned (with an indication of the kind of protection or treatment desired) and the payment of the designation and confirmation fees. Confirmation must reach the receiving Office within the 15-month time limit.

**REQUIREMENTS REGARDING PRIORITY DOCUMENTS**

For applicants who have not yet complied with the requirements regarding priority documents, the following is recalled.

Where the priority of an earlier national, regional or international application is claimed, the applicant must submit a copy of the said earlier application, certified by the authority with which it was filed ("the priority document") to the receiving Office (which will transmit it to the International Bureau) or directly to the International Bureau, before the expiration of 16 months from the priority date, provided that any such priority document may still be submitted to the International Bureau before that date of international publication of the international application, in which case that document will be considered to have been received by the International Bureau on the last day of the 16-month time limit (Rule 17.1(a)).

Where the priority document is issued by the receiving Office, the applicant may, instead of submitting the priority document, request the receiving Office to prepare and transmit the priority document to the International Bureau. Such request must be made before the expiration of the 16-month time limit and may be subjected by the receiving Office to the payment of a fee (Rule 17.1(b)).

If the priority document concerned is not submitted to the International Bureau or if the request to the receiving Office to prepare and transmit the priority document has not been made (and the corresponding fee, if any, paid) within the applicable time limit indicated under the preceding paragraphs, any designated State may disregard the priority claim, provided that no designated Office may disregard the priority claim concerned before giving the applicant an opportunity to furnish the priority document within a time limit which is reasonable under the circumstances.

Where several priorities are claimed, the priority date to be considered for the purposes of computing the 16-month time limit is the filing date of the earliest application whose priority is claimed.

EINGEGANGEN  
Patentanwälte

26. Feb. 2001

TIEDTKE · BÜHLING · KINNE  
& PARTNER (GmbH) PCT

PATENT COOPERATION TREATY

From the INTERNATIONAL BUREAU

To:

PELLMANN, Hans-Bernd  
Tiedtke-Bühling-Kinne et al.  
Bavariaring 4  
D-80336 München  
ALLEMAGNEINFORMATION CONCERNING ELECTED  
OFFICES NOTIFIED OF THEIR ELECTION

(PCT Rule 61.3)

Date of mailing (day/month/year)

16 February 2001 (16.02.01)

Applicant's or agent's file reference

WO24459

## IMPORTANT INFORMATION

International application No.

PCT/EP99/04053

International filing date (day/month/year)

11 June 1999 (11.06.99)

Priority date (day/month/year)

Applicant

NOKIA NETWORKS OY et al

1. The applicant is hereby informed that the International Bureau has, according to Article 31(7), notified each of the following Offices of its election:

AP : GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW

EP : AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE

National : AU, BG, CA, CN, CZ, DE, IL, JP, KP, KR, MN, NO, NZ, PL, RO, RU, SE, SK, US

2. The following Offices have waived the requirement for the notification of their election; the notification will be sent to them by the International Bureau only upon their request:

EA : AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

OA : BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

National : AE, AL, AM, AT, AZ, BA, BB, BR, BY, CH, CU, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IN, IS, KE, KG, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MW, MX, PT, SD, SG, SI, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZA, ZW

3. The applicant is reminded that he must enter the "national phase" before the expiration of 30 months from the priority date before each of the Offices listed above. This must be done by paying the national fee(s) and furnishing, if prescribed, a translation of the international application (Article 39(1)(a)), as well as, where applicable, by furnishing a translation of any annexes of the international preliminary examination report (Article 36(3)(b) and Rule 74.1).

Some offices have fixed time limits expiring later than the above-mentioned time limit. For detailed information about the applicable time limits and the acts to be performed upon entry into the national phase before a particular Office, see Volume II of the PCT Applicant's Guide.

The entry into the European regional phase is postponed until 31 months from the priority date for all States designated for the purposes of obtaining a European patent.

The International Bureau of WIPO  
34, chemin des Colombettes  
1211 Geneva 20, Switzerland

Facsimile No. (41-22) 740.14.35

Authorized officer:

Pascal Pirion

Telephone No. (41-22) 338.83.38

## INTERNATIONAL SEARCH REPORT

International Application No

P 99/04053

**A. CLASSIFICATION OF SUBJECT MATTER**  
 IPC 7 H04B7/005

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 H04B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	EP 0 776 105 A (NIPPON TELEGRAPH & TELEPHONE) 28 May 1997 (1997-05-28) column 1, line 26 - line 33 column 30, line 56 - column 31, line 12 claims 1,19; figure 20 ----	1-20
A	ADACHI F ET AL: "TREE-STRUCTURED GENERATION OF ORTHOGONAL SPREADING CODES WITH DIFFERENT LENGTHS FOR FORWARD LINK OF DS-CDMA MOBILE RADIO" ELECTRONICS LETTERS, GB, IEE STEVENAGE, vol. 33, no. 1, 2 January 1997 (1997-01-02), pages 27-28, XP000692467 ISSN: 0013-5194 the whole document -----	1-20

☐ Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

## ° Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search

27 January 2000

Date of mailing of the international search report

03/02/2000

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2  
 NL - 2280 HV Rijswijk  
 Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
 Fax: (+31-70) 340-3016

Authorized officer

Ó Donnabháin, E

### Information on patent family members

PO 99/04053

Form PCT/ISA/210 (patent family annex) (July 1992)



## PCT

## INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference <b>W024459</b>	<b>FOR FURTHER ACTION</b> see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. <b>PCT/EP 99/ 04053</b>	International filing date (day/month/year) <b>11/06/1999</b>	(Earliest) Priority Date (day/month/year)
Applicant <b>NOKIA NETWORKS OY</b>		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 2 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

**1. Basis of the report**

- a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

- b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing :

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☐ **Certain claims were found unsearchable** (See Box I).

3. ☐ **Unity of invention is lacking** (see Box II).

**4. With regard to the title,**

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

**5. With regard to the abstract,**

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

**6. The figure of the drawings to be published with the abstract is Figure No.**

☐ as suggested by the applicant.

☐ because the applicant failed to suggest a figure.

☒ because this figure better characterizes the invention.

3  
☐ None of the figures.

## PCT

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

RECEIVED 04 OCT 2001

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PCT

Applicant's or agent's file reference <b>WO24459</b>		See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416) <b>FOR FURTHER ACTION</b>	
International application No. <b>PCT/EP99/04053</b>	International filing date (day/month/year) <b>11/06/1999</b>	Priority date (day/month/year) <b>11/06/1999</b>	
International Patent Classification (IPC) or national classification and IPC <b>H04B7/005</b>			
Applicant <b>NOKIA NETWORKS OY</b>			

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.



2. This REPORT consists of a total of 5 sheets, including this cover sheet.

- ☐ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☒ Certain defects in the international application
- VIII ☒ Certain observations on the international application

Date of submission of the demand <b>04/01/2001</b>	Date of completion of this report <b>27.09.2001</b>
Name and mailing address of the international preliminary examining authority:  <b>European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465</b>	Authorized officer. <b>Ciccarese, C</b>  Telephone No. <b>+49 89 2399 7302</b>

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

International application No. PCT/EP99/04053

**I. Basis of the report**

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

**Description, pages:**

1-17 as originally filed

**Claims, No.:**

1-20 as originally filed

**Drawings, sheets:**

1/3-3/3 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
  - ☐ the language of publication of the international application (under Rule 48.3(b)).
  - ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).
3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:
- ☐ contained in the international application in written form.
  - ☐ filed together with the international application in computer readable form.
  - ☐ furnished subsequently to this Authority in written form.
  - ☐ furnished subsequently to this Authority in computer readable form.
  - ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
  - ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.
4. The amendments have resulted in the cancellation of:
- ☐ the description, pages:
  - ☐ the claims, Nos.:

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

International application No. PCT/EP99/04053

☐ the drawings, sheets:

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

*(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)*

6. Additional observations, if necessary:

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

**1. Statement**

Novelty (N)	Yes:	Claims	1-20
	No:	Claims	
Inventive step (IS)	Yes:	Claims	1-20
	No:	Claims	
Industrial applicability (IA)	Yes:	Claims	1-20
	No:	Claims	

**2. Citations and explanations**  
**see separate sheet**

**VII. Certain defects in the international application**

The following defects in the form or contents of the international application have been noted:  
**see separate sheet**

**VIII. Certain observations on the international application**

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:  
**see separate sheet**

**Re Item V**

**Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. The application belongs to the field of digital telecommunications. The goal is to perform an interference estimation.
2. Claims 1, 10 and 19 are regarded as novel and inventive (Articles 33 (2)-(3) PCT) for the following reasoning:

none of the documents from the search report teaches how to perform an interference estimation based on an estimation of the variance of samples of the average of a received signal spread spectrum signal over a predetermined code period over which the spreading codes are orthogonal, nor would this be obvious for a skilled person.

3. The dependent claims concern advantageous embodiments of the subject matter of the independent claims and thus their subject matter is also considered to be novel and inventive.

**Re Item VII**

**Certain defects in the international application**

1. The features of the claims are not provided with reference signs placed in parentheses (Rule 6.2(b) PCT).

**Re Item VIII**

**Certain observations on the international application**

1. It is clear from the description (cf. pages 11-15 and figure 3) that essential features are missing in the definition of the invention.

In fact, in claim 10 it is written that the sampling means generate a despread sample signal, although the despread signal has no antecedent. In fact the integrator I1 (see page 14, line 26) is essential in order to implement the invention.

The reference sign I1 used in claim 10 for the sampling means is wrong, since I1 is an integrator.

Furthermore, it is not specified which signal the verb "averaging" in claim 10, line 7 is applied to, nor the variance of which signal is calculated in part c) of the claim (for the purposes of part V the description and Fig. 3 were used to understand the claims: it was supposed that the received and despread signal was averaged).

Moreover yet, the other operators of figure 3 are indispensable in order to implement a working interference estimator as suggested in the description. They should therefore be included in the definition of the invention.

Since independent claim 10 as well as claims 1 and 19 do not contain these features, they do not meet of the requirement following from Article 6 PCT taken in combination with Rule 6. 3 (b) PCT that any independent claim must contain all the technical features essential to the definition of the invention.

**PCT REQUEST**

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Original (for SUBMISSION) - printed on 11.06.1999 03:11:42 PM

WO24459

<b>0</b>	<b>For receiving Office use only</b>	
<b>0-1</b>	International Application No.	
<b>0-2</b>	International Filing Date	
<b>0-3</b>	Name of receiving Office and "PCT International Application"	
<b>0-4</b>	<b>Form - PCT/RO/101 PCT Request</b>	
<b>0-4-1</b>	Prepared using	<b>PCT-EASY Version 2.84 (updated 01.04.1999)</b>
<b>0-5</b>	<b>Petition</b> The undersigned requests that the present international application be processed according to the Patent Cooperation Treaty	
<b>0-6</b>	Receiving Office (specified by the applicant)	<b>European Patent Office (EPO) (RO/EP)</b>
<b>0-7</b>	Applicant's or agent's file reference	<b>WO24459</b>
<b>I</b>	<b>Title of invention</b>	<b>METHOD AND APPARATUS FOR PERFORMING INTERFERENCE ESTIMATION</b>
<b>II</b>	<b>Applicant</b>	
<b>II-1</b>	This person is:	<b>applicant only</b>
<b>II-2</b>	Applicant for	<b>all designated States except US</b>
<b>II-4</b>	Name	<b>NOKIA TELECOMMUNICATIONS OY</b>
<b>II-5</b>	Address:	<b>Keilalahdentie 4 FIN-02150 Espoo Finland</b>
<b>II-6</b>	State of nationality	<b>FI</b>
<b>II-7</b>	State of residence	<b>FI</b>
<b>II-8</b>	Telephone No.	<b>+358 9 1807 0</b>
<b>II-9</b>	Facsimile No.	<b>+358 9 1807 496</b>
<b>III-1</b>	<b>Applicant and/or inventor</b>	
<b>III-1-1</b>	This person is:	<b>applicant and inventor</b>
<b>III-1-2</b>	Applicant for	<b>US only</b>
<b>III-1-4</b>	Name (LAST, First)	<b>PAJUKOSKI, Kari</b>
<b>III-1-5</b>	Address:	<b>Rantakastellintie 8 B14 FIN-90230 Oulu Finland</b>
<b>III-1-6</b>	State of nationality	<b>FI</b>
<b>III-1-7</b>	State of residence	<b>FI</b>

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WO24459

III-2	Applicant and/or Inventor	<b>applicant and inventor</b> <b>US only</b> <b>HORNEMAN, Karl</b> <b>Kaijantie 36</b> <b>FIN-90800 Oulu</b> <b>Finland</b> <b>FI</b> <b>FI</b>
III-2-1	This person is:	
III-2-2	Applicant for	
III-2-4	Name (LAST, First)	
III-2-5	Address:	
III-2-6	State of nationality	
III-2-7	State of residence	
III-3	Applicant and/or Inventor	<b>applicant and inventor</b> <b>US only</b> <b>KINNUNEN, Pasi</b> <b>Purjehtlajantie 10B24</b> <b>FIN-90560 Oulu</b> <b>Finland</b> <b>FI</b> <b>FI</b>
III-3-1	This person is:	
III-3-2	Applicant for	
III-3-4	Name (LAST, First)	
III-3-5	Address:	
III-3-6	State of nationality	
III-3-7	State of residence	
IV-1	Agent or common representative; or address for correspondence The person identified below is hereby/has been appointed to act on behalf of the applicant(s) before the competent International Authorities as:	<b>agent</b>  <b>PELLMANN, Hans-Bernd</b> <b>Tiedtke-Bühling-Kinne et al.</b> <b>Bavariaring 4</b> <b>D-80336 München</b> <b>Germany</b> <b>+49 89 544690</b> <b>+49 89 532611</b> <b>postoffice tbk-patent.com</b>
IV-1-1	Name (LAST, First)	
IV-1-2	Address:	
IV-1-3	Telephone No.	
IV-1-4	Facsimile No.	
IV-1-5	e-mail	
IV-2	Additional agent(s)	<b>additional agent(s) with same address as first named agent</b> <b>TIEDTKE, Harro; BÜHLING, Gerhard; KINNE, Reinhard; GRAMS, Klaus; LINK, Annette; VOLLNHALS, Aurel; LESON, Thomas, Johannes, Alois; TRÖSCH, Hans-Ludwig; CHIVAROV, Georgi; GRILL, Matthias; KÜHN, Alexander; OSER, Andreas; BÖCKELEN, Rainer</b>
IV-2-1	Name(s)	



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<b>V</b>	<b>Designation of States</b>		
<b>V-1</b>	Regional Patent (other kinds of protection or treatment, if any, are specified between parentheses after the designation(s) concerned)	<b>AP:</b> GH GM KE LS MW SD SZ UG ZW and any other State which is a Contracting State of the Harare Protocol and of the PCT <b>EA:</b> AM AZ BY KG KZ MD RU TJ TM and any other State which is a Contracting State of the Eurasian Patent Convention and of the PCT <b>EP:</b> AT BE CH&LI CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE and any other State which is a Contracting State of the European Patent Convention and of the PCT <b>OA:</b> BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG and any other State which is a member State of OAPI and a Contracting State of the PCT	
<b>V-2</b>	National Patent (other kinds of protection or treatment, if any, are specified between parentheses after the designation(s) concerned)	<b>AE AL AM AT AU AZ BA BB BG BR BY CA CH&amp;LI CN CU CZ DE DK EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZA ZW</b>	
<b>V-5</b>	Precautionary Designation Statement In addition to the designations made under items V-1, V-2 and V-3, the applicant also makes under Rule 4.9(b) all designations which would be permitted under the PCT except any designation(s) of the State(s) indicated under item V-6 below. The applicant declares that those additional designations are subject to confirmation and that any designation which is not confirmed before the expiration of 15 months from the priority date is to be regarded as withdrawn by the applicant at the expiration of that time limit.		
<b>V-6</b>	Exclusion(s) from precautionary designations	NONE	
<b>VI</b>	Priority claim	NONE	
<b>VII-1</b>	International Searching Authority Chosen	European Patent Office (EPO) (ISA/EP)	
<b>VIII</b>	<b>Check list</b>	number of sheets	electronic file(s) attached
<b>VIII-1</b>	Request	4	-
<b>VIII-2</b>	Description	17	-
<b>VIII-3</b>	Claims	5	-
<b>VIII-4</b>	Abstract	1	wo24459a.txt.txt
<b>VIII-5</b>	Drawings	3	-
<b>VIII-7</b>	TOTAL	30	
<b>VIII-8</b>	Accompanying Items	paper document(s) attached	electronic file(s) attached
	Fee calculation sheet	✓	-
<b>VIII-16</b>	PCT-EASY diskette	-	diskette

**PCT REQUEST**

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VIII-18	Figure of the drawings which should accompany the abstract	3
VIII-19	Language of filing of the international application	English
IX-1	Signature of applicant or agent	
IX-1-1	Name (LAST, First)	PELLMANN, Hans-Bernd

**FOR RECEIVING OFFICE USE ONLY**

10-1	Date of actual receipt of the purported international application	
10-2	Drawings:	
10-2-1	Received	
10-2-2	Not received	
10-3	Corrected date of actual receipt due to later but timely received papers or drawings completing the purported international application	
10-4	Date of timely receipt of the required corrections under PCT Article 11(2)	
10-5	International Searching Authority	ISA/EP
10-6	Transmittal of search copy delayed until search fee is paid	

**FOR INTERNATIONAL BUREAU USE ONLY**

11-1	Date of receipt of the record copy by the International Bureau	
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